

Figure 1A

1. Deposit lattice mismatched layer at low T

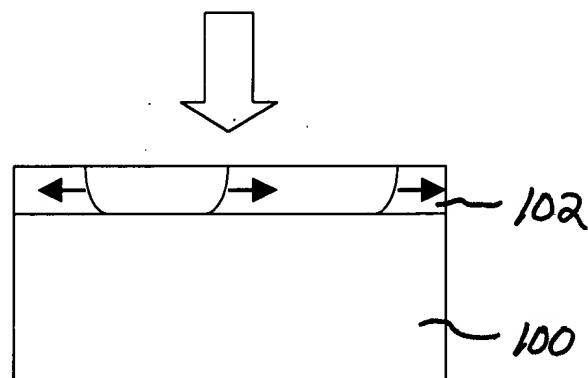
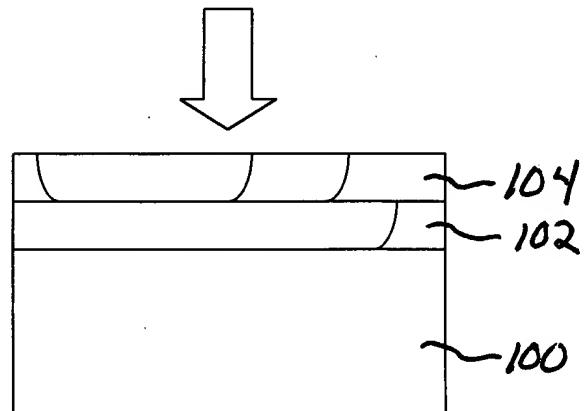


Figure 1B

2. Anneal at high T to increase dislocation flow and reduce dislocation density

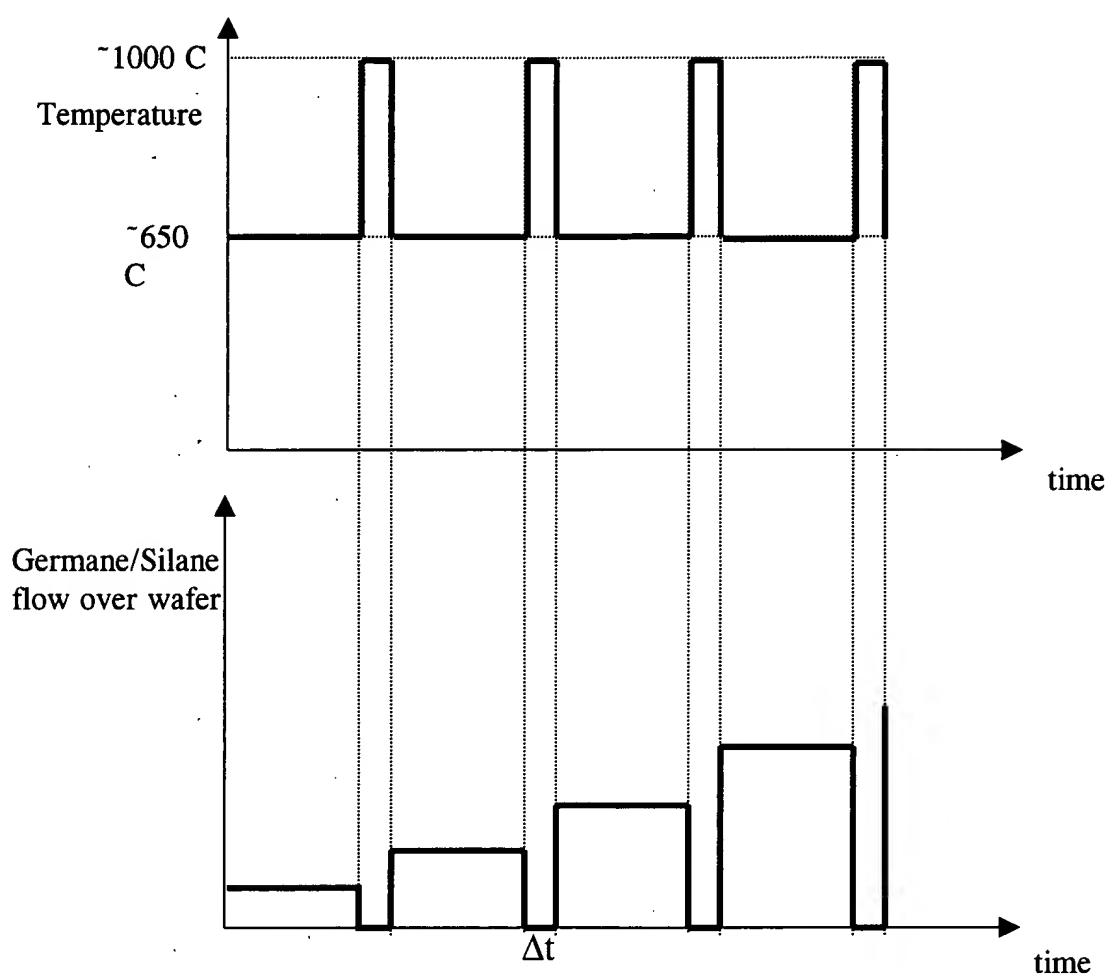


4. Repeat anneal and deposition until desired structure is achieved

Figure 1C

3. Deposit subsequent layer with increased lattice mismatch at low T

*[Handwritten signature]*



**Figure 2**

Glide Kinetics Series (30% Ge): Field TDD vs.  
Growth T

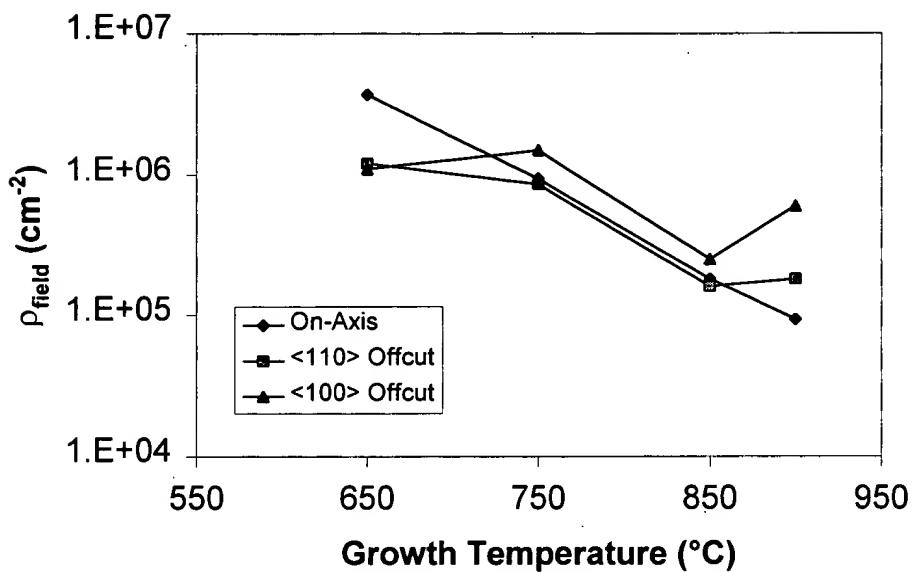


Figure 3

### Change in Effective Strain to Fit Data

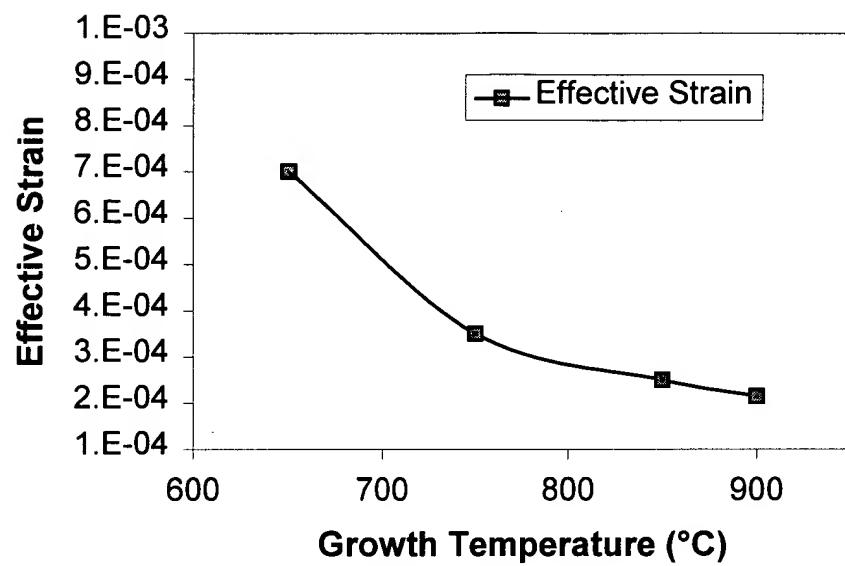


Figure 4

Sample	Total Threading Dislocation Density (#/cm <sup>2</sup> )	Field Threading Dislocation Density (#/cm <sup>2</sup> )
20% SiGe on Si with graded buffer as grown	1.36 x 10 <sup>6</sup>	1.31 x 10 <sup>6</sup>
20% SiGe on Si with graded buffer after a 5 min anneal at 1050°C	7.25 x 10 <sup>5</sup>	5.48 x 10 <sup>5</sup>

Figure 5